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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,605	07/11/2001	Yoshiyuki Okada	826.1735	7617

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EXAMINER

SONG, JASMINE

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/901,605

Applicant(s)

OKADA, YOSHIYUKI

Examiner

Jasmine Song

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 0203.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 12-27 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Detailed Action

1. This office action is in response to Amendment A filed on 10/06/2003, paper #6, which withdrawn claims 12-27. Claims 1-11 are therefore still pending. All rejections and objections not explicitly repeated below are withdrawn.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The rejection of claims 1-2, 8 and 10 under 35 U.S.C. 102(e) as being anticipated by Yamato are maintained and updated as shown below.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2,8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamato et al., U.S. Patent 5944792.

Regarding claims 1,8 and 10, Yamato et al. teach that an access control apparatus (Fig.10, element 70) which processes a plurality of access requests (Fig.10, the read requests from the client 60 and col.15, lines 20-22) to a storage medium (Fig.10, element 10), comprising:

a scheduling unit (Fig.10, element 73) determining a deadline of reading and /or writing processes for the storage medium (col.16, lines 53-58), based on a change of a received data transfer rate (col.14, lines 60-67 and col.17, lines 19-22), and setting an execution schedule for the plurality of access requests in descending order of deadlines (col.8, lines 44-48 and col.17, lines 52-57); and

a control unit (Fig.10, element 20, col.8, lines 6-9, lines 35-48 and col.17, lines 50-52) controlling execution of the access requests according to the execution schedule (col.17, lines 54-57).

Regarding claim 2, Yamato teaches that said scheduling unit determines the deadline of the reading process according to information about a deadline of which is determined when the received data is written in response to read data from the storage medium (col.15, lines 26-31 and col.16, lines 38-48).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6-7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamel et al., U.S. Patent 6263411 B1, in view of Abe., U.S. Patent 5,530,871.

Regarding claims 6,9 and 11, Kamel et al. teach that an access control apparatus which processes a plurality of access requests to a disk type storage medium, comprising:

a determination unit (Fig.1, element 12, MSFS) determining a write area (Fig.2, element 28, memory buffer pool) in such a way that a plurality of write positions (Fig.2, element 32) can be located close to each other (Fig.5A or Fig.5B, all the write requests are close each other and col.10, lines 33-39) in response to requests to write data into the disk type storage medium (col.9, lines 41-45 and col.10, lines 43-45); and

a control unit (Fig.5B, element 114) controlling a process of sequentially writing data to the write area specified by each write request (col.7, lines 41-42 and col.8, lines 7-13).

Kamel does not teach that the write area memory buffer pool 28 is an area of disk 30.

However, Abe teaches that a disk buffer pool which is an I/O buffer area for disk secured on a main storage device (col.1, lines 16-18).

As taught by Abe, the teaching of write area memory buffer pool in an area of disk 30 is advantageous to improve the throughput of the read processing since the data transferred from the user program together with the write instruction is held on the disk buffer pool for a certain period of time and the read instruction for the data is from

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the disk buffer pool without carrying out data from the disk (col.1, lines 31-40).

Accordingly, It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teachings of Abe in the memory system of Kamel and have the write area memory buffer pool 28 on an area of disk 30 for the advantages stated above.

Regarding claim 7, Kamel teaches that wherein said determination unit determines the write area (Fig.2, element 28, memory buffer pool) based on at least one of a number of the write requests and a total transfer rate of the plurality of write requests (col.6, lines 55 to col.7, lines 17).

Allowable Subject Matter

8. Claims 3-5 are allowed.

Response to applicant's Arguments

9. Applicant's arguments filed 10/06/2003 regarding claims 1-2,8 and 10 have been fully considered but they are not persuasive.

In response to the applicant's argument that Yamato targets only read requests for processing, the present invention receives read requests and write requests as access requests and processes the requests (page 12, second paragraph of the applicant's remark), however, the Examiner notices that the applicant claim **reading and/or writing** processing in claims 1, 8 and 10, in this case, the Examiner interprets

only reading processing because of the unclear language **and/or**, the Examiner advises that the applicant change to the reading and writing processing in claims 1, 8 and 10 if the applicant intends to claim both reading and writing processing.

In response to the applicant's argument that Yamato determines a deadline time using a transfer rate registered in the transfer rate table 72, while the present invention determines deadlines based on the transfer rate of received data (page 12, third paragraph of the applicant's remark and page 13, lines 6-9), however, the Examiner notices that Yamato determines a deadline time using the transfer rate registered in the transfer table 72 and this transfer rate is the stored transfer rate of the received data, the stored transfer rate affect the deadline time of a reading request according to the equation as shown in col.17, lines 15-20.

10. Applicant's arguments with respect to claims 6-7, 9 and 11 on page 14, fifth paragraph, have been considered but are moot in view of the new ground(s) of rejection.

In response to the applicant's argument that Kamel only teaches a deadline in only a read request and no deadline in a write request (page 14, last paragraph of the applicant's remark), however, the Examiner notices that these are the extended claimed language which are not cited in the claims 6,9 and 11, in addition, a deadline in a write request is taught by Kamel (Fig.3, step S58).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. When responding to the office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. 1.111 (c).

13. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jasmine Song whose telephone number is 703-305-7701. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 703-306-2903. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306.

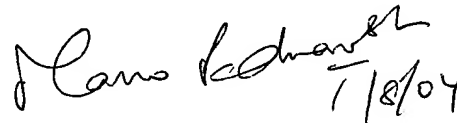
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Jasmine Song



Patent Examiner

January 8, 2004



Mano Padmanabhan

Supervisory Patent Examiner

Technology Center 2100